

On the vocal behaviour and habitat of the Maned Owl *Jubula lettii* in south-western Congo

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From the scattering of existing specimens the Maned Owl *Jubula lettii* appears fairly widely distributed in the Guineo-Congolian Region (Colston, *in* Snow 1978), but its biology and voice have so far remained unknown. From a few observations and captures over 20 years in north-eastern Gabon, Brosset & Erard (1986) believed that this species was restricted to primary rain forest particularly rich in lianes. During a 6-month ecological study of the Kouilou basin of southwestern Congo (Dowsett & Dowsett-Lemaire 1991), I found that *Jubula lettii* was, on the contrary, exclusively tied to the vicinity of water, and reached very high densities in both permanently and seasonally flooded forest. It was extremely noisy throughout the rains, which made it relatively easy to census. Presumably its confinement to swampy habitats, often difficult of access, explains why it had remained so poorly known. This paper describes for the first time the voice and vocal habits of territorial adults; the densities observed in wet forest may be the highest so far recorded for any African owl.

The study area

Field work was carried out from mid-August 1990 to the end of January 1991, and for a week in mid-April 1991, in the lower Kouilou basin of Congo, from the coast to the Mayombe mountain chain which starts *c.* 40 km inland. The altitudinal range is 0–670 m, but most land in the sublittoral plains lies below 100 m. Four main habitats occur in the region: dry-land rain forest (continuous in the Mayombe, and in a forest-savanna mosaic nearer the coast), seasonally flooded forest (*c.* 600 km² in the lower basin), papyrus-*Raphia* swamp and savanna grassland.

Co-ordinates of the four localities where *Jubula* was recorded are: 04°02'S, 11°50'E (Béna, in the western Mayombe); 04°16'S, 11°47'E (Ménengué); 04°19'S, 11°47'E (Koubotchi); 04°31'S, 11°53'E (Lac Titina). The last three sites are all in the sublittoral plains, 10–20 km inland, where a dry-land mosaic of sandy savanna and rain forest surrounds extensive flooded forest. The vegetation at Béna is mainly secondary rain forest, with swampy palm forest along streams.

Koubotchi was visited monthly (2–8 days) from late August to January; Béna and Ménengué for several days each month from September to December, also in April; and Lac Titina only once, in November. Several other sites of dry-land rain forest were explored in the Mayombe from September to January (and also during an earlier visit in May–June 1989), but no *Jubula* were recorded there.

The rains normally start in October and end in May, the period of flooding lasting from November until May or June. Detailed accounts of the vegetation and avifauna of the area are published elsewhere (Dowsett-Lemaire 1991, Dowsett-Lemaire & Dowsett 1991).

Vocal behaviour

Jubula lettii was completely silent in late August–early September at Koubotchi (8 nights), the first song was heard at Béna on 13 September (on one of 4 nights there), and singing was still infrequent in late September (2 nights of mild activity out of 7, Ménengué). By early November, when the forests started to flood, *Jubula* became extremely noisy, calling at all hours of the night and sometimes even by day, and remained very active until my last check in January. During a short visit in April 1991, several were heard singing (Ménengué).

Vocalisations consist of two song-types, in addition to isolated *oo-oooh* notes. The characteristic timbre of all vocalisations is soft for an owl, rather dove-like, and higher-pitched than in the African Wood Owl *Strix woodfordii*. The song of *Jubula* might be confused with that of a dove especially when heard by day (except that no African dove sings exactly like that). At close range the *oo-oooh* notes sound slightly vibrated, but are not modulated as in *Strix*. The modulated and low-pitched *oooh-ooowe* note presented by Chappuis (1978) as belonging possibly to *Jubula*, is in my opinion none other than a call of male *Strix woodfordii* (from its pitch, timbre and modulation). Two different *Strix woodfordii* tested in the Mayombe did indeed react to playback of its recording, whereas no *Strix* ever reacted to my numerous playbacks of *Jubula* songs (although it was often present next to *Jubula*). Unfortunately Kemp in Fry *et al.* (1988) treats the identity of Chappuis's recording as established fact, despite Chappuis's (1978) clear indication that his identification was only tentative.

Song-type 1 is the more stereotyped of the two and is made up of three sections, an initial *oo-oooh*, a series of 4 to 7 (usually) identical *oo* notes with a slight hesitation after the first, and ends invariably with two notes *oo-oooh*, *oo*, the first being strongly accentuated (Fig. 1). During excited vocal exchanges with neighbours some birds produce up to 8 notes in the middle section and may repeat the ending once. The whole sequence lasts from 7 to 9 sec. The bird that I recorded at Béna called for several hours (with long intervals of silence), and never varied from the pattern of 1 + 4 + 2 notes. It was probably an unmated male; when I returned to the area in November, a pair was calling together as is usual.

Song-type 2 lasts about the same length, may start with an isolated *oo-oooh* or launch straight away into one or two series of single *oo* (often 5–7), and is usually followed by a variable number (3–5) of double notes *dooloo-dooloo-dooloo* . . . Either song has been heard occasionally during the day, and either may start an exchange between partners. The unmated bird at Béna also gave loud *oo-oooh* notes in isolation (similar to the initial note of song-type 1), and this is also often used in duets. It is possible that song-type 1 belongs to males and 2 to females, but that cannot be tested without collecting calling birds.

As a rule, partners first establish contact at dusk (about 18.40–18.50 hrs in December), the second bird starting its song before the first one has finished. Then they are quiet for a while (20–40 minutes), presumably during a spell of active feeding. They resume song afterwards when more exchanges with neighbouring pairs take place, especially around 19.30–20.00 hrs, but they carry on at all hours of the night until a final duet at dawn. Birds calling by day do so in isolation, apparently from fixed roost sites (one bird at Ménengué was calling from the same spot for several months). The voice never sounds very loud, even at close range, but easily carries 500–600 m, and up to 1 km if one listens from an exposed situation such as a hill outside forest.

Playback experiments were tried on numerous occasions but failed to provoke any answer in September, except once (perhaps by chance). From November, tape playback regularly prompted the nearest one or two pairs into song, but consistently failed to get them to move nearer the source of sound. Calling birds are exceedingly difficult to see as they hide behind tangles of foliage.

In the active participation of both sexes, and especially the general pattern of songs, the nearest relative of *Jubula lettii* in Africa appears to be *Strix woodfordii*. The characteristic dove timbre, however, and details of rhythm and syntax make confusion impossible. On the other hand, the very low raucous voice of the neotropical Crested Owl *Lophotrix cristata* (sometimes considered to be closely related to *Jubula*, cf. Brosset & Erard 1986) bears absolutely no relation to that of either *Jubula lettii* or *Strix woodfordii*. It would certainly seem preferable to retain *Jubula lettii* in its own genus.

Habitat and densities

At Ménengué, Koubotchi and Lac Titina, the main habitat occupied by *Jubula* is seasonally flooded forest, with a canopy 30–35 m tall. The more common trees are *Ctenolophon englerianus*, *Sacoglottis gabonensis* and *Vitex doniana*; some have well-developed stilt-roots (*Uapaca guineensis*, *Xylopia rubescens*). Except in gaps filled by low thickets, the understorey is fairly open, with little herbaceous growth, but many saplings or small trees (mainly of Melastomataceae, *Martretia quadricornis*, *Raphia* sp.). Large lianes are less abundant than in adjacent dry-land rain forest. *Jubula* also inhabits the permanently flooded forest on the fringes of lakes (L. Titina, L. Nanga at Ménengué), which has a more open canopy dominated by *Chrysobalanus icaco* (Dowsett-Lemaire 1991). About 120 species of birds live in these wet forests, of which the more characteristic (and often quite numerous) include the Tiger Heron *Tigriornis leucolophus*, Grey-throated Rail *Canirallus oculeus*, Bouvier's Fishing Owl *Scotopelia bouvieri*, Bates's Nightjar *Caprimulgus batesi*, Shining-blue Kingfisher *Alcedo quadibrachys*, Black-headed Bee-eater *Merops breweri* and White-browed Forest Flycatcher *Fraseria cinerascens* (Dowsett-Lemaire & Dowsett 1991). *Strix woodfordii* is common in adjacent dry-land rain forest, and ventures only marginally into flooded forests.

At all three sites of flooded forest, densities of *Jubula* as judged by the location of calling pairs in November–January are extremely high. At



Figure 1. Main song-type of *Yubula lettii* (song-type 1, in 3 sections) recorded at Béna (Mayombe). Intervals between first note and middle section and between this and last two notes are just over 2 sec each.

L. Titina as many as six duetting pairs could be heard simultaneously. At Koubotchi 25 ha of flooded forest were occupied by four pairs, giving overall densities of 16 pairs/km². At Ménégué where the forest is floristically less diverse, densities were 6 to 8 pairs/km² (measured over 2 km²). Taking the latter figure, the 600 km² of flooded forest in the area could hold at least 4000 pairs of *ŷubula*.

In the Mayombe, the preferred habitat is far more local and so is the owl: a few pairs are present in the Béna area, along narrow swampy sections of palm forest (*Elaeis guineensis*, *Raphia hookeri*) bordering streams; other tree species (such as *Sterculia tragacantha*) are mainly of secondary forest. The owls seem immune to heavy human disturbance caused by villagers collecting palm wine.

On occasion *ŷubula* does visit dry-land forest away from its territory. At Ménégué, a 12-ha patch of dry secondary forest isolated in the middle of grassy savanna was regularly visited (at least every other night) by one or the other member of a pair living in the swamp forest below, judging by calls and the sighting of a bird at dusk flying across the 300-m gap. I once played a tape of song-type 1 after a bird had advertised its presence with song-type 2, and it left promptly to return and call with its mate down below.

R.J. Dowsett and I set up a net once over flooded forest and found a feather of *ŷubula* in the bottom shelf just over the water; a bird at dusk was on one occasion seen flopping its wings rather noisily against a wall of leaves on the edge of forest, perhaps to flush prey. The high densities observed could be related to an insect diet, as is suggested by the limited data available from stomach contents elsewhere (Chapin 1939, Brosset & Erard 1986). Densities of up to 16 pairs/km² are undoubtedly the highest for any forest owl, and in wooded savanna only the small insectivorous African Scops Owl *Otus senegalensis* can approach such figures in optimal habitat (pers. obs. in Malawi). The only published account of densities in *Strix woodfordii* is from riparian forest in northern Transvaal, where there are 1–2 pairs/km² (Kemp & Kemp 1989).

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References:

- Brosset, A. & Erard, C. 1986. *Les oiseaux des régions forestières du nord-est du Gabon*. Vol. 1. Société Nationale de Protection de la Nature, Paris.
- Chapin, J. P. 1939. The birds of the Belgian Congo. Part 2. *Bull. Amer. Mus. Nat. Hist.* 65: 1–632.
- Chappuis, C. (ed.) 1978. *Les oiseaux de l'Ouest africain*. Sound supplement to *Alauda*. Disc no. 9 (ALA 18). Paris.
- Dowsett, R. J. & Dowsett-Lemaire, F. (eds) 1991. The flora and fauna of the Kouilou basin (Congo) and their exploitation. *Tauraco Res. Rep.* 4, 340 pp.
- Dowsett-Lemaire, F. 1991. The vegetation of the Kouilou basin in Congo. *Tauraco Res. Rep.* 4: 17–51.
- Dowsett-Lemaire, F. & Dowsett, R. J. 1991. The avifauna of the Kouilou basin in Congo. *Tauraco Res. Rep.* 4: 189–239.
- Fry, C. H., Keith, S. & Urban, E. K. (eds) (1988). *The Birds of Africa*. Vol. III. Academic Press.

- Kemp, A. C. & Kemp, M. I. 1989. The use of sonograms to estimate density and turnover of Wood Owls in riparian forest. *Ostrich, suppl.* 14: 105–110.
- Snow, D. W. (ed.) 1978. *An Atlas of Speciation in African Non-passerine Birds*. British Museum (Natural History), London.

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Taxonomic comment on southeastern representatives of two wide-ranging African cisticolas

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Conclusions arrived at from studies of material in southern African collections of southeastern populations of two wide-ranging Afrotropical cisticolas, namely the Pale-crowned or Pectoral-patch Cisticola (Sibley & Monroe 1990) *Cisticola brunnescens* and the Rattling Cisticola *C. chiniana*, are presented hereunder. In both instances new subspecific taxa are introduced.

***Cisticola brunnescens* Heuglin, 1862**

Such material as is available reveals that two forms of cloudscraper cisticola of *C. brunnescens*-type occur along the southeastern littoral of the Southern African Subregion between the eastern Transkei and the Limpopo R. flood-plain of southern Mozambique. One of these corresponds with the southernmost of the two subspecies of *brunnescens* currently recognised from regions lying to the south of the Zambezi, namely, *C. b. egregius* (Roberts), 1913: Wakkerstroom, southeastern Transvaal, whereas the second is undescribed. Structurally this innominate form does not differ from *C. brunnescens*, but is somewhat smaller than *egregius*, in addition to being markedly darker in colour and strikingly streaked with black dorsally. As both have been collected alongside one another during the southern winter months, as at Fossil Head Reserve, eastern Transkei, and again on the Limpopo flood-plain, the possibility that discrete sibling species rather than conspecifics are involved in this instance requires to be addressed.

Firstly, only birds of *egregius*-type are known from the breeding grounds of *C. b. egregius* on the plateau of the Transvaal and upper Natal and the lowlands of Mozambique to the east at the same time, while those of the innominate form are entirely coastal and of seemingly sedentary disposition. Maclean (1985) has, however, drawn attention to the fact that in the grasslands of the Natal midlands (elevations not given), the Pale-crowned Cisticola is "a summer breeding visitor only", yet the Durban Natural Science Museum collection has a specimen dated 11 July from